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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/813,926

03/31/2004

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414068AUS

5063

27774 7590 12/27/2007
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EXAMINER

BLAN, NICOLE R

ART UNIT

PAPER NUMBER

1792

MAIL DATE

DELIVERY MODE

12/27/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/813,926	Applicant(s) MORIGUCHI ET AL.	
	Examiner Nicole Blan	Art Unit 1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-47 is/are pending in the application.
- 4a) Of the above claim(s) 1-15, 30 and 32-47 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 16-29 and 31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>09172004</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The restriction election filed on November 20, 2007 to group II - claims 16-31 is acknowledged. Claims 1-15 and 32-47 have been withdrawn.

Claim Objections

2. Claim 30 is objected to for being dependent upon a non-elected claim. Even if the dependency were to be changed to the independent claim of the restriction election, it would be a duplicate claim with claim 31. For this reason, claim 30 is considered withdrawn. Currently, claims 16-29 and 31 are examined on their merits.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 17, 19, 23, and 25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicant states "... temperature higher than the normal temperature." It is unclear what applicant is trying to claim. For the purpose of examination, the claim is interpreted as reading "...temperature higher than the ambient temperature."
5. Claim 16 recites the limitation "the first air knife" in line 4 of the claim. There is insufficient antecedent basis for this limitation in the claim.
6. Claim 22 recites the limitation "the second air knife" in line 5 of the claim. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 16-18, 20, 22-24, 26, and 31 are rejected under 35 U.S.C. 102(b) as being anticipated by Donlan, Jr. et al. (U.S. Patent 5,565,040, hereafter '040).

'040 teaches a substrate treatment method [title] that is characterized by inserting a substrate [(100), Fig. 10] between an upper surface [reads on "first flat component", (360), Fig. 10] and a lower surface [reads on "second flat component", (350), Fig. 10] that are a predetermined space apart, filling the spaces between the upper and lower surfaces with a fluid [i.e. rinse fluid, using fluid injectors (390, 400, 410), Fig. 10], and spraying air from air knives [reads on "first air knife" and "second air knife", (340), Fig. 10] onto the upper and lower surfaces in order to dry the surface. Furthermore, '040 teaches heating the rinse water with the intent to allow the water retained on the surface to dry more rapidly. Finally, '040 teaches supplying heated air following the air knives. Refer to: col. 6, lines 25-60; cols. 8-9; col. 12, lines 46-48; col. 13, lines 23-27.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

11. Claims 19 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over '040.

Claim 19: '040 teaches the limitations of claim 16 above. It teaches supplying warm air from the behind the air knives, but it does not explicitly teach spraying heated air onto the substrate. It is notoriously well know in the art that using warm air speeds up the drying time which will in turn prevent water spots from forming on the substrate. It would have been obvious to heat the air before applying it to the substrate in order to speed up the drying time of the substrate to have a higher cleaning efficiency and increase the throughput.

Claim 25 is rejected over the reasons applied to claims 19 and 22 above.

12. Claims 21 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over '040, and further in view of JP-11354487 (hereafter JP-487).

Claims 21 and 27: '040 teaches the limitations of claim 16 above. While '040 teaches passing a substrate between two flat compartments, it remains silent with respect to heating the upper and lower surfaces of the substrate before, during, or after the substrate passes between the upper and lower flat compartments. However, JP-487 teaches heating [(33), Fig. 1] the upper surface of the substrate because some moisture can remain on the surface of the substrate after

treatment with the air knife and by heating the surface the moisture is evaporated quickly. Since moisture does not remain for a prolonged period of time on the surface, no watermarks are formed and a good washing treatment can be completed [page 6, paragraph 29].

JP-487 does not explicitly teach heating the lower surface of the substrate after it passes between the upper and lower surfaces. It would have been obvious to one of ordinary skill in the art at the time the invention was made to heat the lower surface of the substrate to remove the remaining moisture in order to evaporate the moisture quickly and prevent watermarks from forming in order to ensure an effective washing treatment is completed.

13. Claims 28-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over '040 as applied to claim 16 above, and further in view of Fukuda et al. (U.S. Patent 6,418,640, hereafter '640).

Claims 28-29: '040 teaches the limitations of claim 16 above. It remains silent with respect to sloping the substrate at a predetermined angle from horizontal in a substrate moving direction while moving the substrate. However, '640 teaches inclining the conveyors to a predetermined angle that the substrates are on to urge the flow toward an edge of the substrate faster so that the rinse water can be purged from the substrate in a more favorable manner [Fig. 6; abstract; col. 10, lines 1-20]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to slope the substrate at a predetermined angle from the horizontal as taught by '640 in the method of treating a substrate disclosed by '040 with a reasonable expectation of success because '640 teaches that the flow of the rinse water will flow faster over the slope and be purged from the substrate in a more favorable manner in order to have a higher cleaning efficiency achieved in a shorter time thereby increasing throughput.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Suzuki et al. (U.S. Patent 5,762,749), Fishkin et al. (U.S. Patent 6,746,544), and Saito et al. (U.S. PGPub 2005/0034742).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nicole Blan whose telephone number is 571-270-1838. The examiner can normally be reached on Monday - Thursday 8-5 and alternating Fridays 8-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Cleveland can be reached on 571-272-1418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

NRB



ALEXANDER MARKOFF
PRIMARY EXAMINER

